

PORTABLE STORAGE KIT SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

The present application is related to provisional application Serial No. 60/466,993, filed 04/30/03, entitled "PORTABLE STORAGE KIT SYSTEM," and provisional application Serial No. 60/428,044, filed 11/20/02, entitled "PORTABLE STORAGE KIT SYSTEM," and provisional application Serial No. 60/455,924, filed 3/18/03, entitled "PORTABLE STORAGE KIT SYSTEM," all of which are incorporated herein by this reference and are not admitted to be prior art with respect to the present invention by the mention in this cross-reference section.

BACKGROUND

This invention relates to providing a re-usable, portable, storage travel system for storing lotions, shampoos, creams, liquid medicines and the like for transport, particularly when traveling, in flexible bags and flexible tubes. Further, this invention also provides a re-usable, portable, storage travel system for storing a flowable food-grade substance, such as, for example, liquor. Preferably, the consumable, flowable substances are stored in relatively small (being smaller than the original bulk container) flexible, sealable, plastic bags that will lay flat when not full (and self-stand when partially filled) or relatively small flexible, sealable plastic tubes. Such flexible bags and flexible tubes hold a small quantity volume for easy transport and use. Heretofore such small, re-usable, self-standing, flexible bag-like containers and small, re-usable, flexible tubes have not been available in a kit for consumer use. Furthermore, the re-usable portable storage travel system comprises a method and apparatus for filling and re-filling the flexible bags and flexible tubes from other containers.

Even further, an adapter for transferring such flowable substances into the top openings of flexible tubes has not been available.

It would be useful to utilize a larger storage container to fill smaller re-usable flexible bags and flexible tubes for travel or other transport by a user or group of users.

OBJECTS AND FEATURES OF THE INVENTION

A primary object and feature of the present invention is to provide a system for re-usable, portable, storage of flowable substances in small volume flexible bag-like containers.

It is a further object and feature of the present invention to provide such a system for re-usable, portable, storage of flowable substances in small volume flexible tubes.

It is a further object and feature of the present invention to provide such a system and method for refilling re-usable, portable, storage small volume flexible tubes and flexible bags from larger or original containers of such flowable substances.

It is a further object and feature of the present invention to provide such a system for

storing a flowable substance, such as, for example, cosmetics (including soaps, lotions, etc.).

It is a further object and feature of the present invention to provide such a system for storing a flowable food-grade substance, such as, for example, liquor.

A further primary object and feature of the present invention is to provide such a system that is efficient, inexpensive, and handy. Other objects and features of this invention will become apparent with reference to the following descriptions.

SUMMARY OF THE INVENTION

In accordance with a preferred embodiment hereof, this invention provides a portable system for holding at least one flowable substance available from at least one user-selected storage container comprising: at least one container means for receiving the at least one flowable substance; and at least one adapter means for adapting the at least one user-selected storage container to assist efficient transfer of the at least one flowable substance from the at least one storage container into such at least one container means; wherein such at least one container means comprises at least one access-spout means for accessing an internal portion of such container means; wherein such at least one container means comprises flexible-element means for flexibly assisting such at least one container means to be transported in a substantially-flat shape when such at least one container means is empty; and wherein such at least one container means comprises flat-bottom element means for assisting such at least one container means to be stably supported in an upright position on a flat bottom when such at least one container means is at least partially filled with the at least one flowable substance.

In accordance with another preferred embodiment hereof, this invention provides a portable system for holding at least one flowable substance available from at least one user-selected storage container comprising: at least one container structured and arranged to receive the at least one flowable substance; and at least one adapter structured and arranged to adapt the at least one user-selected storage container to assist efficient transfer of the at least one flowable substance from the at least one storage container into such at least one container; wherein such at least one container comprises at least one access-spout structured and arranged to access an internal portion of such container; wherein such at least one container comprises flexible-elements structured and arranged to flexibly assist such at least one container to be transported in a substantially-flat shape when such at least one container is empty; and wherein such at least one container comprises flat-bottom elements structured and arranged to assist such at least one container to be stably supported in an upright position on a flat bottom when such at least one container is at least partially filled with the at least one flowable substance.

Moreover, it provides such a portable system wherein such at least one container

comprises at least two containers. Additionally, it provides such a portable system wherein the at least one container comprises a material compatible with food. Also, it provides such a portable system wherein the at least one container comprises a material compatible with a cosmetic. In addition, it provides such a portable system wherein the at least one container comprises at least one flexible bag. And, it provides such a portable system wherein the at least one flexible bag comprises at least a partially transparent material. Further, it provides such a portable system wherein the at least one flexible bag comprises a capacity less than about 500 ml. Even further, it provides such a portable system wherein the at least one flexible bag comprises low density Polyethylene (LDPE) material having a thickness of not more than about 7 mils. Moreover, it provides such a portable system wherein the at least one adapter comprises at least one Yorker cap.

Additionally, it provides such a portable system wherein the at least one flexible bag comprises at least one spout. Also, it provides such a portable system wherein the at least one spout comprises at least one non-spill valve. In addition, it provides such a portable system further comprising at least one lanyard. And, it provides such a portable system wherein such at least one lanyard is structured and arranged to attach to such at least one spout. Further, it provides such a portable refilling system wherein such at least one container comprises at least one flexible bag comprising at least one combination selected from the group consisting of: bottom-gusset and at least one side gusset, bottom-gusset only, at least one side gusset with bottom-fold. Even further, it provides such a portable refilling system further comprising at least one set of instructions for use of the system.

In accordance with another preferred embodiment hereof, this invention provides a portable refilling system comprising a kit for use and transport of at least one flowable substance from at least one user-selected original container comprising at least one threaded opening to at least one kit-system container comprising, in combination: a plurality of container means for containing the at least one flowable substance; transfer means for transferring the at least one flowable substance from the at least one user-selected original container to at least one of such plurality of container means; wherein each of such plurality of container means comprises at least one ingress means for ingress of the flowable substance from such container means; wherein each of such plurality of container means comprises at least one egress means for egress of the flowable substance from such container means; wherein such transfer means comprises adapter means for adapting the at least one threaded opening to transfer the flowable substance into at least one of such plurality of container means; wherein a user may transfer the at least one flowable substance from the at least one user-selected original container to at least

one of such plurality of container means.

In accordance with another preferred embodiment hereof, this invention provides a portable refilling system comprising a kit for use and transport of at least one flowable substance from at least one user-selected original container comprising at least one threaded opening to at least one kit-system container comprising, in combination: a plurality of containers structured and arranged to contain the at least one flowable substance; at least one transferer structured and arranged to transfer the at least one flowable substance from the at least one user-selected original container to at least one of such plurality of containers; wherein each of such plurality of containers comprises at least one ingress for ingress of the flowable substance from such container; wherein each of such plurality of containers comprises at least one egress for egress of the flowable substance from such container; wherein such transferer comprises at least one adapter structured and arranged to adapt the at least one threaded opening to transfer the flowable substance into at least one of such plurality of container; wherein a user may transfer the at least one flowable substance from the at least one user-selected original container to at least one of such plurality of container.

Furthermore, it provides such a portable refilling system wherein such adapter comprises: a plurality of filler-cap assemblies, each respective filler-cap assembly comprising, a filler nozzle element comprising an adapter base diameter structured and arranged to fit such at least one threaded opening, and a cover structured and arranged to cover such filler-nozzle element of such filler-cap assembly. Additionally, it provides such a portable refilling system wherein such plurality of filler-cap assemblies comprises a plurality of Yorker caps. Also, it provides such a portable refilling system wherein such transferer comprises a syringe structured and arranged to uptake the flowable substance and output the flowable substance. In addition, it provides such a portable refilling system wherein such syringe comprises a catheter syringe with a capacity of about sixty cubic centimeters. And, it provides such a portable refilling system wherein such syringe further comprises at least one tubing structured and arranged to transfer the flowable substance from the at least one user-selected original container to the syringe. Further, it provides such a portable refilling system wherein such at least one tubing is between one-eighth inch and one-half inch plastic flexible tubing. Even further, it provides such a portable refilling system further comprising a travel-bag structured and arranged to hold and portably transport such plurality of containers, such adapter and such transporter. Moreover, it provides such a portable refilling system wherein such plurality of containers comprises: at least one first container comprising a first capacity; at least one second container comprising a second capacity.

Additionally, it provides such a portable refilling system wherein: such at least one first container comprises at least two first flexible bags; and such at least one second container capacity comprises at least two second flexible bags. Also, it provides such a portable system wherein each respective such at least two first flexible bags and each respective such at least two second flexible bags comprise at least one spout. In addition, it provides such a portable system wherein each respective such at least one spout comprises at least one non-spill valve. And, it provides such a portable system further comprising at least one lanyard. Further, it provides such a portable system wherein such at least one lanyard is structured and arranged to attach to such at least one spout.

Even further, it provides such a portable refilling system wherein such at least one container comprises at least one flexible bag comprising at least one combination selected from the group consisting of: bottom-gusset and at least one side gusset, bottom-gusset only, at least one side gusset with bottom-fold. Moreover, it provides such a portable refilling system further comprising at least one set of instructions for use of the kit.

Additionally, it provides such a portable refilling system wherein at least one of such plurality of containers comprises: at least one threaded-opening flexible tube; wherein such at least one transferer comprises at least one second adapter structured and arranged to connect with such at least one first adapter and to connect with such threaded-opening flexible tube; and whereby the flowable substance may be transferred directly from the at least one user-selected original container to such at least one flexible tube.

In accordance with another preferred embodiment hereof, this invention provides a portable refilling system comprising a kit for use and transport of at least one flowable substance from at least one user-selected original container to at least one kit-system container comprising, in combination: at least one flexible bag structured and arranged to receive the at least one flowable substance; and at least one funnel structured and arranged to funnel the at least one flowable substance from the at least one user-selected storage container into such at least one container; wherein such at least one flexible bag comprises at least one access-spout structured and arranged to access an internal portion of such at least one flexible bag; wherein such at least one flexible bag comprises flexible-elements structured and arranged to flexibly assist such at least one flexible bag to be transported in a substantially-flat shape when such at least one flexible bag is empty; and wherein such at least one flexible bag comprises flat-bottom elements structured and arranged to assist such at least one flexible bag to be stably supported in an upright position on a flat bottom when such at least one flexible bag is at least partially filled with the at least one flowable substance; wherein such at least one flexible bag comprises

a material compatible with food.

Also, it provides such a portable refilling system further comprising at least one set of instructions for use of the kit. In addition, it provides such a portable refilling system further comprising volume markings on such at least one flexible bag. And, it provides such a portable refilling system further comprising packaging means for packaging together such at least one flexible bag and such at least one funnel. Further, it provides such a portable refilling system wherein such at least one flexible bag comprises at least one combination selected from the group consisting of: bottom-gusset and at least one side gusset, bottom-gusset only, at least one side gusset with bottom-fold.

Even further, it provides such a portable system wherein the at least one flexible bag comprises at least a partially transparent material. Moreover, it provides such a portable system wherein the at least one flexible bag comprises a capacity less than about 500 ml. Additionally, it provides such a portable system wherein the at least one flexible bag comprises Low density Polyethylene (LDPE) material having a thickness of not more than about 7 mils.

In accordance with another preferred embodiment hereof, this invention provides a method of use of a portable refilling system comprising a kit (for use and transport of at least one flowable substance from at least one user-selected original container, having at least one threaded opening, having at least one threaded original cap, into at least one flexible bag) comprising a plurality of flexible bags, each respective such flexible bag having an access-spout and an access-spout cap, and comprising a plurality of threaded adapter caps of various base diameters, each respective such threaded adapter cap having a similar nozzle structured and arranged to fit into the access-spout, comprising the steps of: selecting an appropriately-sized adapter cap, from the plurality of adapter caps, structured and arranged to thread onto the at least one threaded opening of such original container; threading the selected adapter cap onto such at least one threaded opening; selecting at least one flexible bag from the plurality of flexible bags; removing the access-spout cap from the access-spout of the selected flexible bag; placing the nozzle of the selected adapter cap into the access-spout; and transferring such flowable substance from such original container to such flexible bag. Also, it provides such a method of use further comprising the steps of: after such transfer, re-capping the flexible bag with the access-spout cap; and after such transfer, re-capping the original container with such threaded original cap.

In accordance with yet another preferred embodiment hereof, this invention provides a method of use of a portable refilling system comprising a kit (for use and transport of at least one flowable substance from at least one user-selected original container, having at least one

accessible opening, to at least one flexible bag) comprising at least one catheter syringe, having a retractable plunger and a syringe tip, a length of tubing, having two ends, a plurality of flexible bags, each respective such flexible bag having an access-spout and an access-spout cap, comprising the steps of: selecting the at least one user-selected original container; selecting at least one flexible bag from the plurality of flexible bags; measuring a user-desired length of tubing to reach from the syringe tip into the flowable substance reservoir in the user-selected original container; cutting a user-desired length of tubing; attaching an end of the cut length of tubing to the syringe tip; drawing the at least one flowable substance through the cut length of tubing into the at least one catheter syringe by retracting the syringe plunger; removing the tubing from the at least one catheter syringe; placing the syringe tip into the at least one access-spout; and transferring the at least one flowable substance from the at least one syringe to the at least one flexible bag by pushing the plunger towards the catheter tip.

In addition, it provides such a method of use further comprising the step of: after such transfer, re-capping the flexible bag with the access-spout cap.

In accordance with another preferred embodiment hereof, this invention provides a container system for holding at least one flowable substance available from at least one user-selected storage container comprising: at least one container structured and arranged to receive the at least one flowable substance; and wherein such at least one container comprises at least one access-spout structured and arranged to access an internal portion of such container; wherein such at least one container comprises flexible-elements structured and arranged to flexibly assist such at least one container to be transported in a substantially-flat shape when such at least one container is empty; and wherein such at least one container comprises flat-bottom elements structured and arranged to assist such at least one container to be stably supported in an upright position on a flat bottom when such at least one container is at least partially filled with the at least one flowable substance; wherein the at least one flexible bag comprises a capacity less than about 500 ml. And, it provides such a container system wherein the at least one container comprises at least a partially transparent material.

In accordance with another preferred embodiment hereof, this invention provides adapter means, for assisting pouring of a flowable substance from a large container having at least one Yorker cap (with a funnel) to a small container having at least one threaded opening, comprising: at least one access structured and arranged to flowably connect with the funnel of such at least one Yorker cap; and at least one threaded port structured and arranged to connect with such at least one threaded opening; wherein the flowable substance may be transferred directly from the large container to the small container.

Further, it provides such a container system wherein the small container comprises at least one flexible squeeze-tube. Even further, it provides such a container system wherein the large container comprises at least one flexible squeeze-tube.

In accordance with another preferred embodiment hereof, this invention provides a method of use of a portable refilling system comprising a kit (for use and transport of at least one flowable substance from at least one user-selected original container, having at least one threaded opening and at least one threaded original cap, into at least one user-selected secondary container) comprising at least one flexible squeeze-tube, each respective such at least one flexible squeeze-tube having at least one access-opening and at least one access-opening cap, and further comprising at least one receiving adapter cap, structured and arranged to connect to the at least one access-opening of such flexible squeeze-tube and to adapt the access opening to receive at least one funnel end, and further comprising a plurality of threaded transfer adapter caps of various base diameters, each respective such threaded transfer adapter cap being structured and arranged to thread onto the at least one threaded opening of such original container and having at least one funnel end structured and arranged to fit into the at least one threaded receiving adapter cap, such method comprising the steps of: selecting at least one transfer adapter cap, from the plurality of threaded transfer adapter caps, to fit such original container; threading the selected at least one transfer adapter cap onto the at least one threaded opening of such original container; selecting the at least one flexible squeeze-tube; selecting the at least one receiving adapter cap; connecting the selected at least one receiving adapter cap onto such at least one access-opening of such flexible squeeze-tube; placing the funnel end of the selected at least one transfer adapter cap into the selected at least one receiving adapter cap; and transferring such flowable substance from such at least one user-selected original container to such selected at least one flexible squeeze-tube.

Moreover, it provides such a method of use wherein the at least one access-opening of such at least one flexible squeeze-tube is structured and arranged to hold at least one snap-on cap. Additionally, it provides such a method of use wherein the at least one access-opening of such at least one flexible squeeze-tube is structured and arranged to hold a threaded cap. Also, it provides such a method of use further comprising the steps of: after such transfer, re-capping the at least one flexible squeeze-tube with the access-opening cap; and after such transfer, re-capping the at least one original container with such at least one threaded original cap.

In accordance with another preferred embodiment hereof, this invention provides a method of making a flexible squeeze-tube comprising, in combination: providing at least one empty flexible squeeze-tube body portion normally comprising at least one first open end and at

least one second open end; wherein such at least one first open end comprises a reclosable access system; and wherein such reclosable access system, when closed, seals such at least one first open end; and without filling such at least one empty flexible squeeze-tube body portion, sealing such at least one second open end. In addition, it provides such a method wherein such at least one first open end comprises a replacement cap structured and arranged to permit filling of such at least one empty flexible squeeze-tube body portion.

In accordance with another preferred embodiment hereof, this invention provides a product made by the above-described method.

In accordance with another preferred embodiment hereof, this invention provides a product comprising, in combination: at least one empty flexible squeeze-tube body portion having at least one first end and at least one second end; wherein such at least one empty flexible squeeze-tube body portion is new and unused for containment; wherein such at least one first end comprises a reclosable access system wherein such reclosable access system, when closed, seals such at least one first open end; and wherein such at least one second end comprises a permanent “linear” tube-type seal closure.

In accordance with another preferred embodiment hereof, this invention provides a portable refilling system comprising a kit, for use and transport of at least one flowable substance from at least one user-selected transferring flexible squeeze-tube comprising at least one first access-opening to at least one receiving flexible squeeze-tube comprising at least one second access-opening, in combination: a plurality of receiving flexible squeeze-tubes structured and arranged to contain the at least one flowable substance; at least one transferer structured and arranged to transfer the at least one flowable substance from the at least one user-selected transferring flexible squeeze-tube to at least one of such plurality of receiving flexible squeeze-tubes; wherein each of such plurality of receiving flexible squeeze-tubes comprises at least one aperture adapted for passage of the flowable substance; wherein such at least one transferer comprises at least one transferring adapter structured and arranged to adapt the at least one first access-opening to transfer the flowable substance into at least one of such plurality of receiving flexible squeeze-tubes; wherein such at least one transferer comprises at least one receiving adapter structured and arranged to adapt the at least one second access-opening to receive the flowable substance from such at least one transferring adapter into at least one of such plurality of receiving flexible squeeze-tubes; and wherein a user may transfer the at least one flowable substance from the at least one user-selected transferring flexible squeeze-tube to at least one of such plurality of receiving flexible squeeze-tubes. And, it provides such a portable refilling system wherein such at least one transferring adapter

comprises: a plurality of filler-cap assemblies, each respective filler-cap assembly comprising, a filler nozzle element comprising an adapter base diameter structured and arranged to fit such at least one threaded opening, and a cover structured and arranged to cover such filler-nozzle element of such filler-cap assembly. Further, it provides such a portable refilling system wherein such plurality of filler-cap assemblies comprises a plurality of Yorker caps.

In accordance with another preferred embodiment hereof, this invention provides a kit comprising a plurality of squeeze-tubes, each such squeeze-tube comprising, in combination: at least one empty flexible squeeze-tube body portion having at least one first end and at least one second end; wherein such at least one empty flexible squeeze-tube body portion is new and unused for containment; wherein such at least one first end comprises a reclosable access system wherein such reclosable access system, when closed, seals such at least one first open end; and wherein such at least one second end comprises a permanent "linear" tube-type seal closure.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a perspective view of a reusable portable storage kit of the reusable portable storage kit system according to a preferred embodiment of the present invention.

FIG. 2 shows a perspective view of a screw-on cap and adapter cap for the reusable, portable, storage kit system according to a preferred embodiment of the present invention.

FIG. 3 shows a front view of a storage container according to a preferred embodiment of the present invention.

FIG. 4 shows a perspective view illustrating a method of filling a flexible bag of the reusable, portable, storage kit system according to a preferred embodiment of the present invention.

FIG. 5 shows a front view of a flexible bag of the reusable, portable, storage kit system illustrating volume markings according to a preferred embodiment of the present invention.

FIG. 6 shows a side view of the flexible bag of FIG. 5.

FIG. 7 shows a perspective view of a flexible bag in a self-standing, partially filled state according to a preferred embodiment of the present invention.

FIG. 8 shows a sectional view through section 8-8 of FIG. 6 illustrating an internal valve in an outlet position.

FIG. 9 shows a sectional view through section 8-8 of FIG. 6 illustrating an internal valve in a no-spill position.

FIG. 10 shows a front view of a flexible bag of the reusable, portable, storage kit system illustrating preferred volume markings according to a preferred embodiment of the present

invention.

FIG. 11 shows a perspective view of a syringe transferer reusable, portable, storage kit system according to a preferred embodiment of the present invention.

FIG. 12 shows a perspective view of a syringe transferer of the portable storage kit system illustrating a syringe transfer according to a preferred embodiment of the present invention.

FIG. 13 shows a perspective view of another portable storage flask kit, of the reusable, portable, storage kit system according to a preferred embodiment of the present invention.

FIG. 14 shows a perspective view of a lanyard for carrying a flexible bag of the reusable, portable, storage kit system according to a preferred embodiment of the present invention.

FIG. 15 shows a perspective view of another lanyard for carrying a flexible bag of the reusable, portable, storage kit system according to a preferred embodiment of the present invention.

FIG. 16 shows a front view of a flask illustrating volume marking according to a preferred embodiment of the present invention.

FIG. 17 shows a side view of the flask of FIG. 16.

FIG. 18 shows a sectional view through section 18-18 of FIG. 19.

FIG. 19 shows a perspective view of a flask of a portable storage flask kit of FIG. 13.

FIG. 20 shows a perspective view of a bottom and side gusseted reusable flexible bag of a reusable, portable, storage kit system according to a preferred embodiment of the present invention.

FIG. 21 shows a perspective view of a bottom-gusseted, reusable flexible bag of the reusable, portable, storage kit system according to a preferred embodiment of the present invention.

FIG. 22 shows a bottom view of the bottom-gusseted, reusable flexible bag of FIG. 21.

FIG. 23 shows a perspective view of a flat-bottom, side-gusseted "grocery fold" reusable flexible bag of the reusable, portable, storage kit system according to a preferred embodiment of the present invention.

FIG. 24 shows a perspective view of a flexible squeeze tube assembly according to a preferred embodiment of the present invention.

FIG. 25 shows section view through section 25-25 of FIG. 24.

FIG. 26 shows a side view illustrating a re-filling method according to a preferred embodiment of the present invention.

FIG. 27 shows a perspective view of another reusable portable storage kit of the reusable portable storage kit system according to a preferred embodiment of the present invention.

FIG. 28 shows a perspective view of a method of filling a flexible tube from another flexible tube according to a preferred embodiment of the present invention.

FIG. 29 shows a sectional view through section 29-29 of FIG. 28.

FIG. 30 shows a perspective view of a flexible tube with an unsealed bottom portion.

FIG. 31 shows a side view, partially in section, illustrating a step in a method of sealing the bottom portion of a flexible tube.

FIG. 32 shows a side view, partially in section, illustrating another step in a method of sealing the bottom portion of a flexible tube.

FIG. 33 shows a front view of a sealing machine for sealing flexible tube bottoms.

FIG. 34 shows a perspective view of another reusable portable storage kit of the reusable portable storage kit system according to another preferred embodiment of the present invention.

FIG. 35 shows a perspective view of another reusable portable storage kit of the reusable portable storage kit system according to another preferred embodiment of the present invention.

FIG. 36 shows a perspective view of another reusable portable storage kit of the reusable portable storage kit system according to another preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE BEST MODE AND PREFERRED EMBODIMENTS OF THE INVENTION

Reference is now made to the drawings. FIG. 1 is a perspective view of a reusable, portable, storage kit **100** of the reusable portable storage kit system **102** according to a preferred embodiment of the present invention. Preferably, the reusable portable storage kit **100** comprises at least one, and most preferably two, sets of flexible bags **104** and **106** (embodying herein at least one container means for receiving the at least one flowable substance; and, embodying herein at least one container structured and arranged to receive the at least one flowable substance; further embodying herein a plurality of container means for containing the at least one flowable substance; and, a plurality of containers structured and arranged to contain the at least one flowable substance; and, further embodying at least one first container comprising a first capacity; at least one second container comprising a second capacity, as shown. This arrangement also embodies herein wherein the at least one container comprises at

least one flexible bag. Preferably, set of flexible bags 104 comprises three flexible bags 108 (embodying herein wherein such at least one container comprises at least two containers, preferably of three-ounce capacity each; and, embodying herein wherein such at least one first container comprises at least two first flexible bags), preferably, flat when empty (embodying herein wherein such at least one container means comprises flexible-element means for flexibly assisting such at least one container means to be transported in a substantially-flat shape when such at least one container means is empty; and, embodying herein wherein such at least one container comprises flexible-elements structured and arranged to flexibly assist such at least one container to be transported in a substantially-flat shape when such at least one container is empty) and self-standing when at least partially full (embodying herein wherein such at least one container means comprises flat-bottom element means for assisting such at least one container means to be stably supported in an upright position on a flat bottom when such at least one container means is at least partially filled with the at least one flowable substance; and, embodying herein wherein such at least one container comprises flat-bottom elements structured and arranged to assist such at least one container to be stably supported in an upright position on a flat bottom when such at least one container is at least partially filled with the at least one flowable substance), most preferably, comprising polyester biaxially oriented nylon linear low density polyethylene (LLDPE) plastic having a preferred thickness of not more than about 7 mils, most preferably about 3 mils [embodying herein wherein the at least one flexible bag comprises Low density Polyethylene (LDPE) material having a thickness of not more than about 7 mils], preferably, clear or opaque in color, as shown. Most preferably sets of flexible bags 104 and 106 comprise a capacity of less than about 500 milliliters (ml) each as described above (embodying herein wherein the at least one flexible bag comprises a capacity less than about 500 ml). Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, etc., other capacity arrangements, may suffice. Preferably, set of bags 106 comprises two flexible bags 110 (embodying herein such least one second container capacity comprises at least two second flexible bags), preferably, four-ounce capacity each, preferably, flat when empty and self-standing when at least partially full, most preferably, made of plastic, preferably, clear or opaque in color, as shown (embodying herein wherein the at least one flexible bag comprises at least a partially transparent material).

Preferably, each bag 108 and 110 comprises a spout 112, as shown (embodying herein wherein such at least one container means comprises at least one access-spout means for accessing an internal portion of such container means; and, embodying herein wherein such at

least one container comprises at least one access-spout structured and arranged to access an internal portion of such container; and also embodying herein wherein the at least one flexible bag comprises at least one spout; and, embodying herein wherein each of such plurality of container means comprises at least one ingress means for ingress of the flowable substance from such container means; wherein each of such plurality of container means comprises at least one egress means for egress of the flowable substance from such container means wherein each of such plurality of containers comprises at least one ingress for ingress of the flowable substance from such container; wherein each of such plurality of containers comprises at least one egress for egress of the flowable substance from such container; even further, embodying herein wherein each respective such at least two first flexible bags and each respective such at least two second flexible bags comprise at least one spout). Preferably, each respective spout 112 comprises a non-spill spout (such as available from Seaquist Closures called a SmartSpout®) further described in FIG. 8 and FIG. 9 (this arrangement embodies herein wherein each respective such at least one spout comprises at least one non-spill valve). Preferably, bags 108 and 110 are supplied shipped in a flat unfilled state. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, shipping preference, etc., other shipping arrangements, such as pre-filled bags, etc., may suffice.

Preferably, the portable storage kit 100 further comprises a set of adapter caps 114 (embodying herein at least one adapter means for adapting the at least one user-selected storage container to assist efficient transfer of the at least one flowable substance from the at least one storage container into such at least one container means; and, at least one adapter structured and arranged to adapt the at least one user-selected storage container to assist efficient transfer of the at least one flowable substance from the at least one storage container into such at least one container; and, further embodying herein wherein such transfer means comprises adapter means for adapting the at least one threaded opening to transfer the flowable substance into at least one of such plurality of container means), preferably Yorker caps (known as “Red tip Yorker” available from Cleveland Bottle and Supply Co.; Model numbers as stated below), as shown (embodying herein wherein the at least one adapter comprises at least one Yorker cap; and, embodying herein wherein such plurality of filler-cap assemblies comprises a plurality of Yorker caps). Preferably, there are seven adapter caps 114 with each portable storage kit 100, preferably provided in such sizes to fit a majority of common household bottle openings ranging from about 15mm in diameter to about 38mm in diameter, as shown (embodying herein

transfer means for transferring the at least one flowable substance from the at least one user-selected original container to at least one of such plurality of container means; and, embodying herein at least one transferor structured and arranged to transfer the at least one flowable substance from the at least one user-selected original container to at least one of such plurality of containers). Preferably, a user may select the appropriate sized adapter cap 114 to fit a selected original container for use to transfer the flowable substance from the original container to a respective flexible bag as shown and described herein (embodying herein wherein such transferor comprises at least one adapter structured and arranged to adapt the at least one threaded opening to transfer the flowable substance into at least one of such plurality of container; wherein a user may transfer the at least one flowable substance from the at least one user-selected original container to at least one of such plurality of containers; and embodying wherein a user may transfer the at least one flowable substance from the at least one user-selected original container to at least one of such plurality of container means). Preferably, cap 116 is a 15mm diameter cap (model #15-415, natural). Preferably, cap 118 is a 18mm diameter cap (model #18-400, natural). Preferably, cap 120 is a 20mm diameter cap (model #20-400, natural). Preferably, cap 122 is a 22mm diameter cap (model #22-400, natural). Preferably, cap 124 is a 24mm diameter cap (model #24-400, natural). Preferably, cap 126 is a 28mm diameter cap (model #28-400, natural). Preferably, cap 128 is a 38mm diameter cap (model #38-400, natural). Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, durability, shipping arrangements, etc., other dimensions and arrangements, for example, diameters of other incremental scales such as inches, other sizes and quantities, etc., may suffice.

Preferably, the set of adapter caps 114 is comprised essentially of low-density polyethylene plastic (herein referred to as LDPE plastic), preferably all of the adapter caps 114 have a tip orifice 130 of .030 inches. Preferably, all of the adapter caps 114 comprise a tip cap 132 that preferably is removable securable to the tip 134. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, etc., other tip cap 132 and tip 134 arrangements, may suffice. For example, the tip 134 and tip cap 132 may be screwed on or held in place by friction, among the possible options. Further, the tip orifice 130 may be slightly larger or smaller depending on the market niche of containers the user desires to control. The above-described arrangement embodies herein a plurality of filler-cap assemblies, each respective filler-cap assembly comprising, a filler nozzle element comprising an adapter

base diameter structured and arranged to fit such at least one threaded opening, and a cover structured and arranged to cover such filler-nozzle element of such filler-cap assembly.

Preferably, the portable storage kit **100** further comprises a syringe **140** (embodying herein wherein such transferor comprises a syringe structured and arranged to uptake the flowable substance and output the flowable substance), and a length of tubing **142** (embodying herein wherein such syringe further comprises at least one tubing structured and arranged to transfer the flowable substance from the at least one user-selected original container to the syringe), as shown. Preferably, the syringe **140** is a sixty cubic centimeter (cc) syringe, most preferably a 60cc catheter syringe (such as a molded #26302 60 cc catheter-tip syringe commonly manufactured by Exel National Inc. or a Model No. SS-60C-2oz catheter-tip syringe by Terumo), holding about sixty cubic centimeters in volume (embodying herein wherein such syringe comprises a catheter syringe with a capacity of about sixty cubic centimeters). Preferably, the length of tubing **142** is vinyl tubing, preferably, clear tubing, preferably having an outer diameter of about five-sixteenths inches to about seven-sixteenths inches and an inner diameter of between about one-eighth inch and one-half inch (embodying herein wherein such at least one tubing is between one-eighth inch and one-half inch plastic flexible tubing). Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, material availability, etc., other transfer arrangements and dimensions, etc., may suffice. For example, as described below in FIG. 11 the tubing **142** is preferably utilized functionally to attach to the tip **234** of the syringe as will be further described below in reference to FIG. 11.

Preferably, the portable storage kit **100** further comprises a set of instructions **144** (embodying herein at least one set of instructions for use of the system; and embodying herein further comprising at least one set of instructions for use of the kit), a travel bag **146** (embodying herein a travel-bag structured and arranged to hold and portably transport such plurality of containers, such adapter and such transporter) and a packaging container **148**, as shown. Preferably, the travel bag **146** will lay flat and fold such that it will fit into the packaging container **148**. Preferably, the travel bag **146** is a flexible plastic bag, preferably clear plastic, preferably about four inches high by eight inches long having a depth of about two inches. Preferably, the travel bag **146** has a zippered closure. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, durability, etc., other closure arrangements, such as buttons, spring closures, etc., may suffice. For

example, under appropriate circumstances, a cosmetics bag or other style or dimension of bag may suffice. Preferably, the entire contents of the portable storage kit **100** fit into the packaging container **148**. Preferably, the packaging container **148** comprises a top portion **150**, preferably comprising indicia **154**, preferably advertising indicia, for the sale of the reusable portable storage kit **100**. Preferably, the packaging container **148** is about eight inches wide by ten inches in height comprising a gusseted side portion, preferably, with a material thickness of about one and one-half mil. Preferably, the packaging container **148** further comprises an aperture **152** for being placed onto a display rack in a store for sale. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, etc., other methods for display and sale of the portable storage kit **100**, may suffice. Preferably, the instructions **144** comprise a set of instructions as to the method of utilizing the reusable portable storage kit **100**.

Reference is now made to FIG. 2 through FIG. 4 with continued reference to FIG. 1. FIG. 2 is a perspective view of a screw-on cap **156** and an adapter cap **114** for the reusable portable storage kit system **102** according to a preferred embodiment of the present invention. FIG. 3 is a front view of original storage containers **160** and **162** of two separate sizes according to a preferred embodiment of the present invention. (Original storage containers being defined herein as any container or plurality of containers housing a flowable substance to be transferred to a kit container.)

In a preferred embodiment of the present invention, the reusable portable storage kit system **102** is utilized to transfer a flowable substance, such as lotion, shampoo, soap, cosmetics or even powder from an original storage container **160** to at least one bag **108** or **110** of the sets of flexible bags **104** and **106**. This arrangement embodies herein wherein the at least one container comprises a material compatible with a cosmetic. FIG. 2 illustrates a step **164** in such transfer. Preferably, when the original container **160** comprises a screw-on cap **156** such as, for example, that shown, a user removes the screw-on cap **156** and replaces it with an appropriately-sized adapter cap **164** selected from the set of adapter caps **114**, that will screw-on to the threads **166** of the container **160**, as shown. Preferably, a tip cap **132** is also used to provide a removable seal for the original container **160** in lieu of the screw-on cap **156**. FIG. 3 illustrates that the original container may be a large container such as original storage container **162** or smaller such as original storage container **160**.

FIG. 4 is a perspective view illustrating a method of filling a flexible bag **104** of the reusable portable storage kit system **102** according to a preferred embodiment of the present

invention. Preferably, a user chooses an empty flexible bag 108 or 110 from the portable storage kit 100 and a container with contents the user wants to transfer to a flexible bag 108 (shown, however, bag 110 will also suffice) such as illustrated in FIG. 4. Preferably, original container 160 is fitted with an appropriate-sized adapter cap 164, as shown. Preferably, the tip 134 of the adapter cap 164 is placed into the spout 112, as shown. Preferably, the contents of the original container 160 are then poured into the flexible bag 108. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as user preference, material to be transferred, etc., other methods of material transfer, such as squeezing, etc., may suffice. For example, the original container may require squeezing or some other form of pressure to remove the contents. Preferably, a certain amount of pressure is required to pass the contents of the original container 160 through the spout 112 and into the flexible bag 108.

FIG. 5 is a front view of a flexible bag 170 of the reusable portable storage kit system 102 illustrating volume markings 172 (embodying herein volume markings on such at least one flexible bag) according to a preferred embodiment of the present invention. FIG. 6 is a side view of the flexible bag 170 of FIG. 5. Preferably, a flexible bag is available such as flexible bag 170 comprising a plurality of volume markings 172 or other such indicia which will assist the user in determining the volume of contents in the bag 170, as shown. Preferably, the flexible bag 170 also comprises spout 174 and spout cap 176, as shown. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, shipping arrangements, etc., other spout and spout cap arrangements, such as providing the spout or spout cap separately or providing a different method of transfer such as a funnel, etc., may suffice.

FIG. 7 is a perspective view of a flexible bag 180 in a self-standing, partially filled state 182 according to a preferred embodiment of the present invention. Preferably, the flexible bags 180 are self-standing when in a partially filled state and come in a variety of styles as will be further described below.

FIG. 8 is a sectional view through section 8-8 of FIG. 6 illustrating a spout 190 and internal valve 192 in an outlet position 194. FIG. 9 is a sectional view through section 8-8 of FIG. 6 illustrating a spout 190 and internal valve 192 in a no-spill position 196. Preferably, the spout 190 comprises a two-way internal valve 192, as shown. Preferably, the two-way internal valve allows the contents 198 of the bag 170 to flow out of the bag 170, preferably when pressure is applied to the contents, preferably by squeezing bag 170, as shown in FIG. 8.

Preferably, the internal valve 192 seals the bag 170 when the contents are not under pressure as shown in FIG. 9. Preferably, to avoid having the contents flow out of bag 170 due to atmospheric changes, especially during travel (for example, in an airplane), the spout cap is threadably attached to the spout 174 during transport. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, durability, valve technology improvements, etc., other no-spill arrangements, may suffice.

FIG. 10 is a front view of a flexible bag 200 of the reusable portable storage kit system 102 illustrating preferred volume markings 202 according to a preferred embodiment of the present invention. Preferably, the bag 200 comprises such volume marking to inform a user of the volume content in the bag 200 and about what content the bag 200 will hold. Preferably, such volume markings 202 may be added to any of the bags described herein as part of the reusable portable storage kit system 102. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, advertising preference, manufacturing techniques, etc., other volume markings 202, may suffice. For example, such marking may be incorporated into the bag manufacturing as mold marks or other readable marking.

Reference is now made to Fig. 11 and FIG. 12 with continued reference to the above-described Figures. FIG. 11 is a perspective view of a syringe 140 of the reusable portable storage kit system 102 according to a preferred embodiment of the present invention. FIG. 12 is a perspective view of a syringe 140 of the reusable portable storage kit system 102 illustrating a syringe transfer 220 from a combination syringe and tubing assembly 222 into a flexible bag 224 according to a preferred embodiment of the present invention. Preferably, the reusable portable storage kit 100 comprises a transfer means for use with original substance containers such as container 226 that are not compatible with the adapter caps 114. Such containers may comprises a wide mouth opening 228 (as illustrated in FIG. 11), or a very small opening or be in a container that is not easily lifted or comprise an opening that is “user-unfriendly” (i.e. difficult to transfer in the described manner). Preferably, for such circumstances, a combination syringe and tubing assembly 222 is preferably utilized. Preferably, a relatively short piece of tubing 230 is cut from the tubing 142 supplied with the portable storage kit 100, preferably, about two to three inches in length. Preferably, one end 232 is placed over the tip 234 of the syringe 140 and slid toward the body 236 of the syringe until the tapered portion 237 of the tip 234 seals against the tubing 230. Preferably, the syringe plunger 238 is pushed into a fully inserted position within the body 236 of the syringe 140

forcing out the air within the body 236 (preferably, the syringe 140 comprises a seal 244 at the tip 246 of the syringe plunger 238, as shown). Preferably, the other end 240 of the tubing 230 is placed into the flowable substance 242 (to be transferred) and the plunger 238 is drawn out of the body 236 of the syringe 140, preferably drawing the flowable substance 242 into the syringe 140, as shown. Preferably, a user 249 then removes the tubing 230 and places the tip 234 of the syringe 140 into the spout 250 of the flexible bag 224, as shown. Preferably, the user then pushes on the plunger 238, forcing the flowable substance 242 into the flexible bag 224, as shown. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, material selection, etc., other syringe methods of transfer and use, may suffice.

FIG. 13 is a perspective view of a reusable portable storage flask kit 260, of the portable storage kit system 100, according to a preferred embodiment of the present invention. Preferably, the reusable portable storage flask kit 260 comprises at least one flask 262 (embodying herein at least one flexible bag structured and arranged to receive the at least one flowable substance), most preferably, a set of three flasks 262, 264 and 266, a funnel 268 (embodying herein at least one funnel structured and arranged to funnel the at least one flowable substance from the at least one user-selected storage container into such at least one container) for transferring liquid from a source container to a flexible-flask, and a merchandising container 270, as shown (embodying herein packaging means for packaging together such at least one flexible bag and such at least one funnel). Preferably, the portable storage flask kit 260 may be utilized to transfer and store a flowable substance, preferably food, preferably comprising alcohol (embodying herein wherein such at least one flexible bag comprises a material compatible with food).

Preferably, flask 262 holds about sixteen ounces of substance. Preferably, flask 264 and 266 hold about eight ounces each of substance. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, sizing preference, etc., other dimensions and content arrangements, such as more or less volume or measurements other than ounces, etc., may suffice. Preferably, all the flasks 262, 264 and 266 are self-standing, when at least partially filled, and fold flat when empty. Further, it is preferred that each flask comprises a spout 272, as shown (embodying herein wherein such at least one flexible bag comprises at least one access-spout structured and arranged to access an internal portion of such at least one flexible bag). Preferably, the funnel 268 comprises a tip 274 that will fit into the opening 276 of the spout to facilitate transferring liquid from a source container

to one of the respective flasks 262, 264 and 266. Additional details and description is provided below in reference to FIGS. 16 through 19.

FIG. 14 is a photograph of a lanyard 280 (embodying herein at least one lanyard: and embodying herein wherein such at least one lanyard is structured and arranged to attach to such at least one spout) for carrying a respective flask 262, 264 and 266 of the portable storage kit system 260 according to a preferred embodiment of the present invention. Preferably, the lanyard 280 may also be used to carry any flexible bag (such as flexible bag 200 or flexible bag 224) comprising a spout 272 that will adapt to the lanyard 280, however, it is most preferable for a container comprising the spout 272 and flask taught herein. Preferably, the lanyard 280 comprises an O-ring 282, a first connecting cord 284, a quick-release clip 286, a second connecting cord 288 and an optional squeeze clip 290, as shown.

Referring to FIG. 15 and FIG. 18 with continued reference to FIG. 14, FIG. 15 is a photograph of the lanyard with an optional squeeze clip 290 attached, according to a preferred embodiment of the present invention. FIG. 18 is a sectional view through section 18-18 of FIG. 19.

Preferably, the O-ring 282 is sized to slide over the spout 272 and snugly encircle the base 292, preferably having an outer diameter of about three-quarter inch, as shown. FIG. 18 illustrates a preferred groove 294 at the base 292 into which the O-ring 282 preferably fits, as shown. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, lanyard size, etc., other dimensions, may suffice.

Preferably, a first connecting cord 284, preferably about three inches in length, connects the O-ring 282 to quick-release clip 286, as shown. Preferably, the first connecting cord 284 comprises tufting cord, preferably about one-sixteenth diameter, eighty-pound upholstery tufting cord, preferably dyed black, as shown. Under appropriate circumstances, other color and material arrangements may suffice. Preferably, one end 296 of the first connecting cord 284 is tied to O-ring 282, preferably utilizing a knot 298, preferably the ends of the knot 298 are cut and heat-sealed such that the knot 298 will not loosen. Preferably, the other end 300 of first connecting cord 284 is slipped through an aperture 302 in the quick-release clip 286, knotted with knot 304, preferably heat-sealing the knot end, as described above, then pulled tightly. Preferably, the knot 304 is large enough that it will not pull through the aperture 302 during use (pulling) of the lanyard 280. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, lanyard material, etc., other mounting arrangements

for the lanyard onto the spout, such as permanent attachment, adhesive, etc., may suffice.

Preferably, a second connecting cord 288, preferably about six-inches-long, preferably looped (such that the looped portion 306 is about three inches long) connects to the quick-release clip 286, as shown. Preferably, the quick-release clip 286 is a Minimee Kitty-clip (such as available from John C Tucker Company, Inc. 2921 Suffolk Drive, Fort Worth, Texas). Preferably, the second connecting cord 288 also comprises a knot 308, preferably with heat-sealed end 310, as shown. Preferably, the second connecting cord 288 comprises a second looped portion 312 that is optionally looped through the optional squeeze clip 290, as shown. Preferably, the optional squeeze clip 290 is a Clever-Clip model #CLC-2B (as available from Fasteners for retail, Cleveland, OH – 1-800-422-2547). Preferably, the second connecting cord 288 is a one-eighth-inch smooth braided 16-C carrier braid (such as available from Rocky Mountain Cord Company; www.rmccord.com). The optional squeeze clip 290 provides a means for clipping the lanyard 280 to a backpack or other such carrying device, if used. If the optional squeeze clip 290 is not used then the lanyard is preferably carried by hand.

Reference is now made to FIGS. 16 through 19 with continued reference to the above Figures. FIG. 16 is a front view of a flask 320 illustrating volume marking 322 according to a preferred embodiment of the present invention. FIG. 17 is a side view of the flask 320 of FIG. 16. Preferably, flask 320 comprises a series of volume marking indicia 322, preferably short lines 324 with numerical values 326 on each side of the short lines 324, as shown. Also illustrated is spout 272 and cap 328. Preferably, cap 328 is threadably attached to spout 272, as shown.

FIG. 18 is a sectional view through section 18-18 of FIG. 19. As described above in FIG. 13, the spout 272 comprises groove 294 along base 292 of spout 272, as shown. Preferably, O-ring 282 fits into groove 294, as shown. Preferably, spout 272 does not comprise an internal valve and has an open throat 330, as shown. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, durability, etc., other spout arrangements, such as multiple grooves, angled grooves, raised portions in lieu of grooves, etc., may suffice.

FIG. 19 is a perspective view of a flask of FIG. 13. Preferably, FIG. 19 illustrates flask 332 that represents any of flasks 262, 264 and 266 shown in FIG. 13. Preferably, flask 332 is self-standing when at least partially filled. Preferably, flask 332 is a self-standing bag such as found in U.S. Patent No. 5,971,613 incorporated herein by reference (and attached as Appendix A) as prior art enabling, in conjunction with this specification, Applicant's flask. Further, such

bag is preferably purchased from Kapak Corporation, the assignee on the referenced patent. Is this still true ???

FIG. 20 is a perspective view of a bottom-gusseted and side-gusseted reusable flexible bag 340 of the reusable, portable, storage kit system 102 according to another preferred embodiment of the present invention. Preferably, bag 340 comprises a bottom gusset 342 and a side gusset 344, as shown. A gusset being an extra piece of material used to give the flexible bag added size or strength in a particular location and typically a folded portion, as shown. The bag 340 utilizes a small capacity flexible container intended to also be self-standing when at least partially filled. Applicant has found that providing such bag 340 with both a bottom gusset 342 and a side gusset 344 increases the dimension, capacity and strength of the bag 340 while still providing a relatively small bag 340 that will also fold flat when emptied. Preferably, bag 340 has a capacity of about 125 milliliters while being dimensioned at 75mm wide by 115mm long with about a about 25mm side gusset. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, durability, size preference, manufacturing preference, etc., other dimensions, may suffice.

FIG. 21 is a perspective view of a bottom-gusseted, reusable flexible bag 350 of the reusable, portable, storage kit system 102 according to another preferred embodiment of the present invention. Preferably, bag 350 comprises a bottom gusset 352, as shown. Preferably, the bottom gusset 352 is a slightly larger bottom that comprises an end portion 354 on each respective side 356 and 358 of the bag 350, as shown. FIG. 22 is a bottom view of the bottom-gusseted, reusable flexible bag 350 of FIG. 21. Preferably, as the bag 350 is filled with a flowable substance, the bottom gusset 352 opens first providing a surface 360 that lays relatively flat and assists the bag 350 in remaining in a standing position when placed as such by a user. Preferably, bag 350 holds about 125 milliliters while being dimensioned at 75mm wide by 115mm long. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, durability, size preference, manufacturing preference, etc., other dimensions, may suffice.

FIG. 23 is a perspective view of a flat-bottom side-gusseted “grocery fold” reusable flexible bag 370 of the reusable, portable, storage kit system 102 according to a preferred embodiment of the present invention. Most preferably, a “grocery fold” reusable flexible bag 370 is provided for use in the storage kit system 102. The bag 370 provides an even larger capacity than the other described bags in a smaller folded position when empty, as shown.

Preferably, such a bag 370 holds about 125 milliliters while being dimensioned at 75mm wide by 115mm long with about a about 25mm side gusset. It is noted that the above described bags 340, 350 and 370 embody herein at least one flexible bag comprising at least one combination selected from the group consisting of: bottom-gusset and at least one side gusset, bottom-gusset only, at least one side gusset with bottom-fold. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, durability, size preference, manufacturing preference, etc., other dimensions, may suffice.

FIG. 24 is a perspective view of a flexible squeeze tube assembly according to a preferred embodiment of the present invention. FIG. 25 is section view through section 25-25 of FIG. 24. FIG. 24 illustrates a flexible squeeze tube assembly 400. Preferably, the flexible squeeze tube assembly 400 comprises a flexible squeeze tube 402, as shown (such as available from JSN Packaging www.jsn.com). Most preferably, the flexible squeeze tube 402 comprises a cap 404, as shown. Such caps 404 come with a variety of attachment options, however, most preferably such cap 404 is threadably attached to the flexible squeeze tube 402, as shown. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as manufacturing, plastics technology, used preference, economics, user preference, etc., other methods of attachment of the cap to the flexible squeeze tube 402, such as snap-on caps, threaded flip top caps, round, square or other-shaped caps etc., may suffice.

Preferably, the flexible squeeze tube assembly 400 comprises a receiving adapter cap 406, as shown. Preferably, the receiving adapter cap 406 comprises the same attachment means as the flexible squeeze tube 402. In the illustrated embodiment, the receiving adapter cap 406 comprises threaded attachment means. Preferably, the receiving adapter cap 406 comprises a cylindrical passageway 408, preferably round, preferably having an internal diameter 410 that will allow a yorker-tip 134 (see FIG. 27) to fit within the inner diameter 410, preferably about nine-thirty-seconds (9/32) of an inch in diameter. Preferably, cylindrical passageway 408 has a height long enough to permit the yorker-tip 134 to fit tightly into the inner diameter whereby a seal is created between the walls of the yorker-tip 134 and the cylindrical passageway 408, as shown. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, ease of use, etc., other sizes and shapes of receiving adapter caps, such as square or round, etc., may suffice. Furthermore, those skilled in the art, upon reading the teachings of this specification, will appreciate that, under appropriate circumstances,

considering such issues as user preference, economics and ease of use, other diameters and heights of the cylindrical passageway 408, may suffice. Most preferably, the receiving adapter caps 406 fit at least one specific size of flexible squeeze tube fill-top 412 such as the threaded, preferably round opening 414, as shown. Most preferably the cylindrical passageway 408 aligns with the opening 414, as shown. Preferably, the described alignment provides a pathway for the filling of such flexible squeeze tube 402.

FIG. 26 is a side view illustrating a re-filling method according to a preferred embodiment of the present invention. As previously described above, the reusable portable storage kit system 102 is utilized to transfer a flowable substance, such as lotion, shampoo, soap, cosmetics or even powder from an original storage container 160 to, in this embodiment, a flexible squeeze tube 402. Such transfer occurs as described above by selecting an appropriate-sized adapter cap 164 selected from the set of adapter caps 114, that will screw-on to the threads 166 of the container 160, as shown in FIG. 3. FIG. 3 further illustrates that the original container may be a large container such as original storage container 162 or smaller such as original storage container 160. Preferably, an appropriately sized receiving adapter cap 406 is selected for the preferred flexible squeeze tube fill-top 412 and attached to such flexible squeeze tube fill-top 412, as shown.

Preferably, the air in the flexible squeeze tube 402 is removed, by folding and squeezing the flexible squeeze tube 402 in half, as shown. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, etc., other methods of squeezing out the air, such as rolling the tube, etc., may suffice. Preferably, the yorker-tip 134 is placed into the cylindrical passageway 408 of the receiving adapter cap 406 and a flowable substance is then transferred into the flexible squeeze tube 402, as shown.

FIG. 27 is a perspective view of another reusable portable storage kit 420 of the reusable portable storage kit system 102 according to a preferred embodiment of the present invention. Preferably, in this embodiment of the reusable portable storage kit 420, the components of the kit 420 comprise the same components of the reusable portable storage kit 100 with the following change: In lieu of bags 108, a set of flexible squeeze tubes 422, 424 and 426 are provided and a set of receiving adapter caps 428, 430 and 432 are provided, as shown. A unique characteristic as opposed to plastic bottles, flexible tubes may have most or all of the air in them purged by hand-squeezing prior to filling (as herein previously described).

Preferably, the set of flexible squeeze tubes 422, 424 and 426 comprise three separate volume “sizes” of flexible squeeze tube 402 such that differing quantities of product may be

used. Most preferably, each set of flexible squeeze tubes **422**, **424** and **426** comprises the same flexible squeeze tube fill-top **412**. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, manufacturing preference, etc., other sizes of squeeze tubes and combination of squeeze tube tops, such as snap-on tops, threaded tops, etc., may suffice.

Most preferably, each of the set of receiving adapter caps **428**, **430** and **432** comprises a different size adapter cap base such that the kit **420** may be utilized with the most commonly used flexible squeeze tubes **402** and flexible squeeze tube fill-tops **412**. The preferred types of receiving adapter cap attachments are to fit flexible squeeze tube fill-tops **412** as follows: M-8, M-5 and 22-400 tops (an industry standard as described by Seaquest Closures, www.seaquestclosures.com).

In such manner, the kit **420** provides a kit for filling both flexible bags **110** (or any size), and flexible tubes **402**. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, supplier preference, other styles of flexible containers (including such containers as “tottles”; a combination of a flexible container and a bottle such as available from Fenton, Weber & Jones www.FWJpackaging.com)), etc., other combinations of such flexible containers within the kit **420**, may suffice.

FIG. 28 is a perspective view of a method of filling a flexible tube **500** from another, preferably larger, originating container that is also flexible tube **502** according to a preferred embodiment **504** of the present invention. FIG. 29 is a sectional view through section 29-29 of FIG. 28.

As previously described above, the reusable portable storage kit system is utilized to transfer a flowable substance, such as lotion, shampoo, soap, cosmetics or even powder from an original storage container to, in this embodiment, a flexible squeeze tube **504**. Such transfer occurs by selecting an appropriate-sized transferring adapter cap **506**, preferably selected from a set of transfer adapter caps (as described above and further described below), that will screw-on to the threads **508** of the flexible squeeze tube **504**, as shown in FIG. 28. Preferably, the transferring adapter cap **506** is a yorker cap, as shown. Most preferably, at least one such the yorker cap comprises M-8 threads, a common thread for flexible tubes. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, thread size, cap style preferences, etc., other sizes and dimensions of threading, other cap styles, etc.,

may suffice.

Preferably, a receiving adapter cap **510** is attached to the flexible tube **500** to be filled, preferably attached by screw-on threads **512** to the flexible squeeze tube **504**, as shown in FIG. 28. However, those skilled in the art, upon reading the teachings of this specification, will appreciate that, under appropriate circumstances, considering such issues as cap attachment and flexible tube technology improvements, other methods of attaching an adapter cap **510**, such as “snap-on” means, may suffice.

In operation, the flexible squeeze tube **504** is folded or squeezed by the user; preferably utilizing the user’s hand(s) **520**, until the majority of the air is removed from the flexible squeeze tube **504**. Next, preferably, the tip **514** of the transferring adapter cap **506** is placed into the opening **516** of the receiving adapter cap **510** such that a seal is created between the tip **514** and the sidewalls **518** of the receiving adapter cap **510**, as shown. Preferably, the content of the originating container, flexible tube **502**, is then squeezed from the flexible tube **502** into the flexible squeeze tube **504**, as shown.

FIG. 30 is a perspective view of a flexible tube **530** with an unsealed bottom portion **532**. FIG. 30 represents the tube structure (open bottom, capped top) in which flexible tubes **530** are commonly manufactured for use and filling by a manufacturer for an end user. Typically, the tube is filled and then sealed, as heretofore filling such tubes from the top portion has been impractical. Applicant has determined that such tubes may be sealed and sold without filling (empty), particularly in combination with Applicant’s storage kit system **100** and filling system and methods as described herein. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, etc., alternate flexible tube configurations, flexible tube cap configurations, etc., may suffice.

FIG. 31 is a side view, partially in section, illustrating a step **540** in a method of sealing the bottom portion **532** of a flexible tube **530**. FIG. 32 is a side view, partially in section, illustrating another step **550** in a method of sealing the bottom portion **532** of a flexible tube **530**. FIG. 33 is a photograph of a sealing machine **560** for sealing flexible tube bottom portions. Preferably, the bottom portions **532** of the flexible tubes **530** are sealed, as shown, preferably in a linear fashion as in most tube-type seals. Preferably, a sealing machine **560** is utilized such as sealing machine TP-30 available through www.aline.com, as shown.

FIG. 34 is a perspective view of another reusable portable storage kit **570** of the reusable portable storage kit system **102** according to another preferred embodiment of the present invention. Preferably, kit **570** comprises the elements of reusable portable storage kit **420** and

an additional transferring adapter **506**, most preferably a yorker cap, preferably to fit flexible squeeze tube top size M-8 (as described above, an industry standard as described by Seaquest Closures, www.seaquestclosures.com).

FIG. 35 is a perspective view of another reusable portable storage kit **580** of the reusable portable storage kit system **102** according to another preferred embodiment of the present invention. Preferably, kit **580** comprises the elements of kit **570**, with the following exceptions: no flexible bags **106** and an additional flexible tube **582**, as shown. Those skilled in the art, upon reading the teachings of this specification, will appreciate that, under appropriate circumstances, considering such issues as economics and user preference, other quantities of flexible tubes, such as more or fewer than described, may suffice.

FIG. 36 is a perspective view of another reusable portable storage kit **590** of the reusable portable storage kit system **102** according to another preferred embodiment of the present invention. Preferably, in this embodiment the kit **590** comprises additional flexible tubes **592**, **594**, **596**, and **598**, packaging container **148** comprising top portion **150**, preferably comprising indicia **154**, preferably advertising indicia, for the sale of the reusable portable storage kit **590** and a set of refilling instructions **600**, as shown. Preferably, the additional flexible tubes are sized for a customer/user preference and used in combination with a parent kit, such as kit **570**, that includes all the adapter caps for use with a variety of original containers. Upon reading the teachings of this specification, those with ordinary skill in the art will now understand that, under appropriate circumstances, considering such issues as economics, user preference, other styles, dimensions and quantities of flexible tubes and kit components, etc., other elements and components as described above, in combination or separately, etc., may suffice.

From the disclosures herein, it is noted that several novel methods are provided. In further detail, according to a preferred embodiment of the present invention, a method is provided for using a portable refilling system comprising a kit (for use and transport of at least one flowable substance from at least one user-selected original container, having at least one threaded opening, having at least one threaded original cap, to at least one flexible bag) comprising a plurality of flexible bags, each respective such flexible bag having an access-spout and an access-spout cap, and comprising a plurality of threaded adapter caps of various base diameters, each respective such threaded adapter cap having a similar nozzle structured and arranged to fit into the access-spout, comprising the steps of: selecting an appropriately-sized adapter cap, from the plurality of adapter caps, structured and arranged to thread onto the at least one threaded opening of such original container; threading the selected adapter cap onto such at least one threaded opening; selecting at least one flexible bag from the plurality of

flexible bags; removing the access-spout cap from the access-spout of the selected flexible bag; placing the nozzle of the selected adapter cap into the access-spout; and transferring such flowable substance from such original container to such flexible bag. Preferably, such method further includes the steps of: after such transfer, re-capping the flexible bag with the access-spout cap; and after such transfer, re-capping the original container with such threaded original cap.

According to another preferred embodiment of the present invention, a method is provided for a method of use of a portable refilling system comprising a kit (for use and transport of at least one flowable substance from at least one user-selected original container, having at least one accessible opening, to at least one flexible bag) comprising at least one catheter syringe, having a retractable plunger and a syringe tip, a length of tubing, having two ends, a plurality of flexible bags, each respective such flexible bag having an access-spout and an access-spout cap, comprising the steps of: selecting the at least one user-selected original container; selecting at least one flexible bag from the plurality of flexible bags; measuring a user-desired length of tubing to reach from the syringe tip into the flowable substance reservoir in the user-selected original container; cutting a user-desired length of tubing; attaching an end of the cut length of tubing to the syringe tip; drawing the at least one flowable substance through the cut length of tubing into the at least one catheter syringe by retracting the syringe plunger; removing the tubing from the at least one catheter syringe; placing the syringe tip into the at least one access-spout; and transferring the at least one flowable substance from the at least one syringe to the at least one flexible bag by pushing the plunger towards the catheter tip. Preferably, such a method further includes the steps of: after such transfer, re-capping the flexible bag with the access-spout cap; and after such transfer, re-capping the original container with such threaded original cap.

According to another preferred embodiment of the present invention, a method is provided for use of a portable refilling system comprising a kit (for use and transport of at least one flowable substance from at least one user-selected original container, having at least one threaded opening and at least one threaded original cap, into at least one user-selected secondary container) comprising at least one flexible squeeze-tube, each respective such at least one flexible squeeze-tube having at least one access-opening and at least one access-opening cap, and further comprising at least one receiving adapter cap, structured and arranged to connect to the at least one access-opening of such flexible squeeze-tube and to adapt the access opening to receive at least one funnel end, and further comprising a plurality of threaded transfer adapter caps of various base diameters, each respective such threaded transfer adapter

cap being structured and arranged to thread onto the at least one threaded opening of such original container and having at least one funnel end structured and arranged to fit into the at least one threaded receiving adapter cap, such method comprising the steps of: selecting at least one transfer adapter cap, from the plurality of threaded transfer adapter caps, to fit such original container; threading the selected at least one transfer adapter cap onto the at least one threaded opening of such original container; selecting the at least one flexible squeeze-tube; selecting the at least one receiving adapter cap; connecting the selected at least one receiving adapter cap onto such at least one access-opening of such flexible squeeze-tube; placing the funnel end of the selected at least one transfer adapter cap into the selected at least one receiving adapter cap; and transferring such flowable substance from such at least one user-selected original container to such selected at least one flexible squeeze-tube.

Moreover, it provides such a method of use wherein the at least one access-opening of such at least one flexible squeeze-tube is structured and arranged to hold at least one snap-on cap. Additionally, it provides such a method of use wherein the at least one access-opening of such at least one flexible squeeze-tube is structured and arranged to hold a threaded cap. Also, it provides such a method of use further comprising the steps of: after such transfer, re-capping the at least one flexible squeeze-tube with the access-opening cap; and after such transfer, re-capping the at least one original container with such at least one threaded original cap.

According to another preferred embodiment of the present invention, a method is provided for making a flexible squeeze-tube comprising, in combination: providing at least one empty flexible squeeze-tube body portion normally comprising at least one first open end and at least one second open end; wherein such at least one first open end comprises a reclosable access system; and wherein such reclosable access system, when closed, seals such at least one first open end; and without filling such at least one empty flexible squeeze-tube body portion, sealing such at least one second open end. In addition, it provides such a method wherein such at least one first open end comprises a replacement cap structured and arranged to permit filling of such at least one empty flexible squeeze-tube body portion. According to another preferred embodiment of the present invention, a product is provided as made by the method described above.

According to another preferred embodiment of the present invention, a product is provided comprising, in combination: at least one empty flexible squeeze-tube body portion having at least one first end and at least one second end; wherein such at least one empty flexible squeeze-tube body portion is new and unused for containment; wherein such at least one first end comprises a reclosable access system wherein such reclosable access system, when

closed, seals such at least one first open end; and wherein such at least one second end comprises a permanent “linear” tube-type seal closure.

According to another preferred embodiment of the present invention, this invention provides a portable refilling system comprising a kit, for use and transport of at least one flowable substance from at least one user-selected transferring flexible squeeze-tube comprising at least one first access-opening to at least one receiving flexible squeeze-tube comprising at least one second access-opening, in combination: a plurality of receiving flexible squeeze-tubes structured and arranged to contain the at least one flowable substance; at least one transferor structured and arranged to transfer the at least one flowable substance from the at least one user-selected transferring flexible squeeze-tube to at least one of such plurality of receiving flexible squeeze-tubes; wherein each of such plurality of receiving flexible squeeze-tubes comprises at least one aperture adapted for passage of the flowable substance; wherein such at least one transferor comprises at least one transferring adapter structured and arranged to adapt the at least one first access-opening to transfer the flowable substance into at least one of such plurality of receiving flexible squeeze-tubes; wherein such at least one transferor comprises at least one receiving adapter structured and arranged to adapt the at least one second access-opening to receive the flowable substance from such at least one transferring adapter into at least one of such plurality of receiving flexible squeeze-tubes; and wherein a user may transfer the at least one flowable substance from the at least one user-selected transferring flexible squeeze-tube to at least one of such plurality of receiving flexible squeeze-tubes.

And, it provides such a portable refilling system wherein such at least one transferring adapter comprises: a plurality of filler-cap assemblies, each respective filler-cap assembly comprising, a filler nozzle element comprising an adapter base diameter structured and arranged to fit such at least one threaded opening, and a cover structured and arranged to cover such filler-nozzle element of such filler-cap assembly. Further, it provides such a portable refilling system wherein such plurality of filler-cap assemblies comprises a plurality of Yorker caps.

According to another preferred embodiment of the present invention, this invention provides a kit comprising a plurality of squeeze-tubes, each such squeeze-tube comprising, in combination: at least one empty flexible squeeze-tube body portion having at least one first end and at least one second end; wherein such at least one empty flexible squeeze-tube body portion is new and unused for containment; wherein such at least one first end comprises a reclosable access system wherein such reclosable access system, when closed, seals such at least one first open end; and wherein such at least one second end comprises a permanent “linear” tube-type seal closure.

Although applicant has described applicant's preferred embodiments of this invention, it will be understood that the broadest scope of this invention includes such modifications as diverse shapes and sizes and materials. Such scope is limited only by the below claims as read in connection with the above specification.

Further, many other advantages of applicant's invention will be apparent to those skilled in the art from the above descriptions and the below claims.